

REMARKS

The Office Action dated October 4, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

The above amendment to claim 20 and the following remarks are submitted as a full and complete response thereto. No new matter is being presented, and approval and entry are respectfully requested.

Claims 20-29 and 31-33 are pending in the present application.

OBJECTIONS TO THE CLAIMS:

In the Office Action, at page 2, claim 20 was objected to for a minor informality. Claim 20 has been amended to correct such minor informality. Accordingly, it is respectfully requested that the objection to the claim be withdrawn.

REJECTION UNDER 35 U.S.C. § 103(a):

In the Office Action, at page 2, claims 20-24, 26-29, and 31-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,237,571 to Cotton et al. ("Cotton") in view of U.S. Patent No. 5,568,476 to Sherer et al. ("Sherer") and U.S. Patent No. 6,084,856 to Simmons et al. ("Simmons"). The Office Action took the position that Cotton, Sherer, and Simmons disclose all the aspects of independent claims 20, 23, 26, 31, and 33. The rejection is traversed and reconsideration is requested.

Claim 20, upon which claims 21-25 depend, recites a method of sending packets between trunked network switches. The method includes identifying a trunked network switch comprising ports, an adjustable number of which are bundled as a trunk group; identifying a packet received from a source destined for a destination to be accessed through the trunk group, by checking a trunk bit in a lookup table; identifying an appropriate trunk port of the trunk group on which to send the packet to the destination. The identifying of the appropriate trunk port comprises identifying a trunk group identification in a lookup entry, determining a trunk port index based upon a rules tag, and applying the trunk group identification and the trunk port index to a trunk group table to identify the appropriate trunk port for communication. The method further forwards the packet to the destination on the appropriate trunk port.

Claim 23 recites a method of sending packets between trunked network switches. The method includes receiving a packet from a source at a first port of a trunked network switch; identifying that the first switch includes ports which are bundled as a trunk group; identifying that the packet received from the source is destined for a destination which must be accessed through the trunk group, by checking a trunk bit in a lookup table; identifying an appropriate trunk port of the trunk group on which to send the packet to the destination; and forwarding the packet to the destination on the appropriate trunk port. The identifying of the trunk port for communication includes a step of performing a lookup of the destination address in the lookup table, and identifying the trunk port based upon the lookup. The step of identifying the trunk port further comprises the steps of

determining a destination address match in the lookup table; identifying a rules tag in the lookup table; identifying a trunk group identification in a lookup entry; determining a trunk port index based upon the rules tag; and applying the trunk group identification and the trunk port index to a trunk group table, the table therefore identifying a trunk port for communication. The rules tag identifies the trunk port index based upon predetermined bits of at least one of a source IP address and a destination IP address.

Claim 26, upon which claims 27-33 depend, recites a system for sending packets between ports on trunked network switches. The system includes a first switch having a plurality of communication ports, a second switch having a plurality of communication ports, a trunk connection between the first switch and the second switch, wherein the trunk connection comprises an adjustable number of ports, and a sending unit for sending a packet from a first port of the first switch to a second port of the second switch. The system also includes an ingress unit in the first switch for receiving the packet from a source, and for performing an address resolution lookup on one of a source address and a destination address of the packet based upon a lookup table, an identifying unit for identifying that the first switch and second switch are connected by the trunk connection by checking a trunk bit in the lookup table, and for identifying an appropriate trunk port of a trunk group on which to send the packet to a destination by determining a trunk port index based upon a rules tag in a matching lookup entry, and a forwarding unit for forwarding the packet to the destination on the appropriate trunk port.

Claim 31 recites a system for sending packets between ports on trunked network switches. The system includes a first switch having a plurality of communication ports; a second switch having a plurality of communication ports; a trunk connection between the first switch and the second switch; a sending unit for sending a packet from a first port of the first switch to a second port of the second switch; an ingress unit in the first switch for receiving the packet from a source, and for performing an address resolution lookup on one of a source address and a destination address of the packet based upon a lookup table; an identifying unit for identifying that the first switch and second switch are connected by the trunk connection by checking a trunk bit in the lookup table, and for identifying an appropriate trunk port of a trunk group on which to send the packet to a destination; and a forwarding unit for forwarding the packet to the destination on the appropriate trunk port. The lookup table comprises address entries and corresponding rules tag information. The lookup table further comprises trunk group identification information. The identifying unit identifies the appropriate trunk port by determining a trunk port index based upon a rules tag in a matching lookup entry. The identifying unit is configured to identify the trunk port index based upon predetermined bits of at least one of a source IP address and a destination IP address.

Claim 33 recites a system for sending packets between ports on trunked network switches. The system includes a first switch having a plurality of communication ports; a second switch having a plurality of communication ports; a trunk connection between the first switch and the second switch; a sending unit for sending a packet from a first port of

the first switch to a second port of the second switch; an ingress unit in the first switch for receiving the packet from a source, and for performing an address resolution lookup on one of a source address and a destination address of the packet based upon a lookup table; an identifying unit for identifying that the first switch and second switch are connected by the trunk connection by checking a trunk bit in the lookup table, and for identifying an appropriate trunk port of a trunk group on which to send the packet to a destination; and a forwarding unit for forwarding the packet to the destination on the appropriate trunk port. The identifying unit comprises modification means to modify trunk group information to reflect trunk port failures and identifies the appropriate trunk port by determining a trunk port index based upon a rules tag in a matching lookup entry.

As will be discussed below, the cited prior art of Cotton, Sherer, and Simmons fail to disclose or suggest the elements of any of the presently pending claims.

Cotton provides that by indexing into the destination port store by a logic address code (LAC), the controller can find the port or group of ports that should be used to forward the call to its destination. See column 11, lines 25-30. Sherer, in turn, describes that a table entry exists for the 32 Rx ports in the hub, where the table is scanned using the Rx port number as the address and a bit can be updated along with the Tx port number when the valid bit is being set. See column 9, lines 19-25, 31-34, and 51-53. Simmons provides an internal rules checker 68 or an external rules checker 44 decides whether a frame stored should output to a single MAC port or multiple MAC ports. See

column 6, lines 27-31 and 40-48. A decision making engine (i.e., the internal rules checker 68 or the external rules checker 44) in Simmons outputs a forwarding decision.

Accordingly, a combination of Cotton, Sherer, and Simmons, would provide a controller forwarding the call using indexing in a logical address code of a port number stored as the forwarding address in a table using an internal rules checker or an external rules checker. However, the combination of the cited references is deficient as to providing “determining a trunk port index based upon a rules tag, and applying the trunk group identification and the trunk port index to a trunk group table to identify the appropriate trunk port for communications,” as recited in independent claim 20. Contrary to the contentions made in the Office Action, Simmons does not teach or suggest “determining a trunk port index based upon a rules tag,” as recited in independent claim 20. Simmons does not determine a trunk port index based upon a rules tag, rather, Simmons simply describes that the decision making engine (i.e., the internal rules checker 68 or the external rules checker 44) outputs a forwarding decision to a switch subsystem 70 in a form of a port vector identifying each MAC port. Nothing in Simmons teaches that the forwarding decision is a trunk port index to identify the appropriate trunk port of a trunk group as in the present invention.

Thus, Cotton, Sherer, and Simmons are devoid of any teaching or suggestion that provides that the identification of an appropriate trunk port comprises identifying a trunk group identification in a lookup entry, determining a trunk port index based upon the rules tag, and applying the trunk group identification and the trunk port index to a trunk

group table to identify the appropriate trunk port for communication. Cotton and Sherer do not provide a teaching or suggestion that a determination of a trunk port index may be based upon a rules tag in a matching lookup entry.

Instead, Cotton provides that a memory table is provided which contains routing information for each logical address code, where, by indexing into the destination port store by a logic address code, a controller can find the port or group of ports that should be used to forward the call to its destination. See column 11, lines 21-29. The contents of the controller in-address register, the controller out-address register, and the destination port store of Cotton does not provide the recitations of the identification of the appropriate trunk port of the trunk group as recited in independent claim 20 of the present application. See column 17, line 24, to column 18, line 48 of Cotton. Similarly, Sherer is devoid of any description or suggestion pertaining to the identification of the appropriate trunk port of the trunk group as recited in independent claim 20 of the present application. Nothing in Simmons teaches that the forwarding decision is a trunk port index to identify the appropriate trunk port of a trunk group as in the present invention. Accordingly, Simmons does not cure the deficiencies of Cotton and Sherer.

Because independent claims 23, 26, 31, and 33 include similar claim features as those recited in independent claim 20, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claims 23, 26, 31, and 33, the arguments presented above supporting the patentability of

independent claim 20 are incorporated herein to support the patentability of independent claims 23, 26, 31, and 33.

Accordingly, a combination of Cotton and Sherer fails to teach or suggest all the recitations of independent claims 20, 23, 26, 31, and 33. It is respectfully requested that independent claims 20, 23, 26, 31, and 33 and related dependent claims be allowed.

In the Office Action, at page 4, claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Cotton, Sherer, Simmons, and U.S. Patent No. 5,386,414 to Chou et al. ("Chou"). The Office Action took the position that Cotton, Sherer, Simmons, and Chou disclose all the aspects of independent claim 25. Reconsideration is requested.

Independent claim 25 recites a method of sending packets between trunked network switches. The method includes receiving a packet from a source at a first port of a trunked network switch; identifying that the first switch includes ports, an adjustable number of which are bundled as a trunk group; identifying that the packet received from the source is destined for a destination which must be accessed through the trunk group, by checking a trunk bit in a lookup table; identifying an appropriate trunk port of the trunk group on which to send the packet to the destination by determining a trunk port index based upon a rules tag in a matching lookup entry; and forwarding the packet to the destination on the appropriate trunk port. The step of identifying the trunk port for communication includes a step of applying trunking information to the trunk group table, and the trunk group table is modified to reflect trunk port failures.

Referring to independent claim 25, as previously set forth, Cotton, Sherer, and Simmons fail to teach or suggest, “identifying an appropriate trunk port of the trunk group on which to send the packet to the destination by determining a trunk port index based upon a rules tag in a matching lookup entry.” In addition, Chou generally describes a method that uses a trunk group table whose size is a function of the number of active trunks in the trunk group connecting two packet switches and uses information stored in a plurality of data fields of an internal protocol header of the packet switches, which uniquely identifies each call, to select trunks from the trunk group table. See column 3, lines 35-46.

However, similarly to Cotton, Sherer, and Simmons, Chou is silent as to teaching or suggesting that an identification of an appropriate trunk port of the trunk group on which to send the packet to the destination is performed by determining a trunk port index based upon a rules tag in a matching lookup entry. Accordingly, a combination of Cotton, Sherer, Simmons, and Chou would fail to teach or suggest all the recitations of independent claim 25.

In view of the foregoing, is it respectfully requested that independent claims 25 and 33 and be allowed.

CONCLUSION:

In view of the above, Applicants respectfully submit that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art.


Applicants further submit that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicants therefore respectfully request that each of claims 20-29, 31, and 32 be found allowable and that this application pass to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicants respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


Alicia M. Choi
Registration No. 46,621

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

AMC:cbr